

## ABSTRACT OF THE DISCLOSURE

The present invention provides a method, system, and computer program product for fast and efficient IP (Internet Protocol) address lookup. IP address values are interpreted using a separate array for each 8-bit component of the address. This technique is therefore exploitable in a multi-processing environment. The IP address look-up time when using the present invention is nearly constant, regardless of the particular address value. Minimal, if any, locking is required. This technique can be used equally well with class-specific IP version 4 32-bit addresses and with Classless Inter-Domain Routing (CIDR), and easily extends to use with IP version 6 128-bit addresses.

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